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HALE AND DORR, LLP 60 STATE STREET BOSTON, MA 02109			LEWIS, CHERYL RENE A	
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2177  
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7

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/976,399

Applicant(s)

BELLAMY ET AL.

Examiner

Cheryl Lewis

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 & 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. Claims 1-46 are presented for examination.

### INFORMATION DISCLOSURE STATEMENT

2. The information disclosure statements filed on May 23, 2002, paper no. 5, and February 7, 2003, paper no. 6 complies with the provisions of MPEP § 609. They have been placed in the application file, and the information referred to therein has been considered as to the merits.

### *Drawings*

3. The drawings are objected to because they fail to show necessary textual labels of features or symbols in Figures 2-4b as described in the specification. For example, placing a label, "root node" with element 10 of Figure 2 would give the viewer necessary detail to fully understand this element at a glance. A **descriptive** textual label for **each numbered element** in these figures would be needed to fully and better understand these figures without substantial analysis of the detailed specification. Any structural detail that is of sufficient importance to be described should be shown in the drawing. Optionally, applicant may wish to include a table next to the present figure to fulfill this requirement. See 37 CFR 1.83. 37 CFR 1.84(n)(o) is recited below:

"(n) Symbols. Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations

Art Unit: 2177

are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.

(o) Legends. Suitable descriptive legends may be used, or may be required by the Examiner, where necessary for understanding of the drawing, subject to approval by the Office. They should contain as few words as possible."

#### **PRIORITY**

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the United Kingdom on October 12, 2000. It is noted, however, that applicant has not filed a certified copy of the United Kingdom application (0025042.3) as required by 35 U.S.C. 119(b).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2177

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borgendale et al. (Pat. No. 5,734,568, filed August 21, 1992, hereinafter Borgendale); Higgins et al. (Pat. No. 5,805,710, filed June 24, 1997, hereinafter Higgins); and Penteroudakis et al. (Pat. No. 6,651,220 B1, filed May 3, 1999, hereinafter Penteroudakis et al.).

7. Regarding Claims 1, 2, 3, 11, 24-28, 30, 35-40, and 43-46, Borgendale teaches a data processing system for merger of sorting information and redundancy information to provide contextual predictive keying for postal addresses.

Art Unit: 2177

The method and associated system for a data processing system for merger of sorting information and redundancy information to provide contextual predictive keying for postal addresses as taught or suggested by Borgendale includes:

receiving input data having one or more input terms (col. 9, lines 1-7) for finding the desired postal address (col. 5, lines 14-28, col. 9, lines 1-39 and 43-49, col. 11, lines 9-21) from a first database including data representing the plurality of postal addresses (col. 3, lines 30 and 31, col. 5, lines 12 and 13, col. 7, lines 12-33, figure 4A element 202 'Access Addressee Record Data Base For Zip Code' and element 216 'Access Addressee Record Data Base For Streets In This Zip Code'), each postal address being formed of one or more postal address elements (col. 3, lines 66-67, col. 4, lines 1-19, col. 9, lines 1-7); outputting data representing a postal address (col. 9, lines 49-60), if any, represented in the first database that has postal address elements that correspond with each of the entries (col. 9, lines 1-39); a memory storing a program (col. 6, lines 45-51); a processor in communication with the memory (col. 6, lines 17-22).

However, Borgendale does not expressly teach a dictionary corresponding to at least one of the postal address.

Higgins teaches a dictionary corresponding to at least one of the postal address (Abstract, lines 1-12, col. 11, lines 40-67, col. 12, lines 1-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Borgendale's data processing system for the correction of mail address information with Higgins' method of recognizing cursive addresses on mail pieces because Higgins' method enables dictionary management to recognize the

Art Unit: 2177

cursive address of mail pieces, which includes creating a plurality of word databases containing the most frequently observed words in a particular portion of an address block derived from training data, word images from various portions of the address block are extracted and the word images are compared to the database corresponding to the appropriate portion of the address block using a cursive word recognition engine, a search order of the word databases are updated based on the frequency of occurrence of recognized words in a predetermined number of previously evaluated addresses (Abstract, lines 1-12).

However, Higgins does not expressly teach searching a dictionary for entries in the dictionary corresponding to one or more input terms in the form of a tree data structure.

Penteroudakis teaches searching a dictionary for entries in the dictionary (Abstract, lines 1-10) corresponding to one or more input terms (col. 3, lines 5-13 and 18-41), the dictionary is in the form of a tree data structure (col. 3, lines 13-17) having a plurality of nodes (col. 3, lines 52-60) including a root node (col. 3, lines 52-60) and a multiplicity of leaf nodes (col. 4, lines 43-49), a path from the root node to one of the leaf nodes representing elements (col. 3, lines 52-60), a lower quality correspondence with the entry (col. 6, lines 41-61), the nodes being organized in a linear store such that all of the descendants of any given node are located after that given node in the linear store (col. 3, lines 12-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the dictionary management means of Higgins' method

Art Unit: 2177

with the electronic dictionary means of Penteroudakis' method because Penteroudakis' method enables retrieving information from an electronic dictionary while storing all information about words that have the same normalized form into a single entry within the electronic dictionary, the normalized form of a word has all lower case letters and no diacritical marks, when information is to be retrieved from the dictionary for a word, the word is first normalized and then the dictionary is searched for the entry corresponding to that normalized word (Abstract, lines 1-9).

8. Regarding Claim 4, Borgendale teaches data representing postal addresses includes, for each postal address element, a code for the postal address element (col. 9, lines 1-7, figure 7, element 352 'zip code field', element 354 'the city field', element 355 'the state field', etc.).

9. Regarding Claims 5 and 31, Penteroudakis teaches the entry sharing a stem defined by a path from the root node to the particular node and a plurality of nodes have a plurality of portions (col. 3, lines 52-67, col. 4, lines 1-23).

10. Regarding Claims 6 and 32, Penteroudakis teaches a termination point (col. 4, lines 29-38).

11. Regarding Claim 7, Borgendale teaches a single character (col. 4, lines 4, 7-11, and 52-60).

12. Regarding Claim 8, Borgendale teaches a plurality of characters (col. 4, lines 4, 7-11, 52-60).



Art Unit: 2177

13. Regarding Claims 9 and 42, the limitations of this claim has been noted in the rejection above. In addition, Borgendale teaches a location for each occurrence of data within the first database (col. 7, lines 12-44).

14. Regarding Claim 10, Penteroudakis teaches the dictionary corresponds to one or more of the input terms if the one or more input terms are identical to the entry (col. 3, lines 5-13 and 18-41).

15. Regarding Claims 12, 29, and 41, Penteroudakis teaches one or more matched/unmatched input terms (col. 13, lines 20-44, col. 14, lines 52-67).

16. Regarding Claims 13 and 15, Borgendale teaches the postal address elements forming the postal addresses in the first database are divided into categories (figure 2, elements 16 and 23-54) and data associated with a given postal address element indicates the category of the given postal address element (figure 7A, elements 352-366).

17. Regarding Claim 14, Borgendale teaches the categories are selected from the group consisting of a name element (figure 7, element 356), a house number element (figure 7, element 362), a street number element (figure 7, element 358), a town element (figure 7, element 354), a country element (figure 7), a state element (figure 7, element 355), and a postal code element (figure 3A, element 108 'Perform Character Recognition Of Postal Zip Code).

18. Regarding Claim 16, Borgendale teaches a number of characters available to represent the given postal address (col. 5, lines 40-44).

Art Unit: 2177

19. Regarding Claim 17, Borgendale teaches input data having one or more input terms includes receiving an indication of the category of postal address element that each of the one or more input terms represents (col. 5, lines 14-28, col. 9, lines 1-39 and 43-49, col. 11, lines 9-21).

20. Regarding Claims 18 and 33, Penteroudakis teaches at least one of the input terms to increase the likelihood of locating and searching the dictionary (Abstract, lines 1-10, col. 3, lines 5-13 and 18-41).

21. Regarding Claims 19 and 34, Penteroudakis teaches data syntax between the input terms of data (figure 1, col. 3, lines 64-67, col. 4, lines 1-23).

22. Regarding Claims 20 and 21, Borgendale teaches input terms correspond to a category of postal address element (col. 5, lines 14-28, col. 9, lines 1-39 and 43-49, col. 11, lines 9-21).

23. Regarding Claim 22, Borgendale teaches input data is entered manually by a user (figure 2, col. 6-22).

24. Regarding Claim 23, Borgendale teaches data is received from a separate data store (figure 2, element 25 'Mass Store').

### **CONCLUSION**

25. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A. Kagehiro et al. (U.S. Pat. No. 6,246,794 B1) discloses a method of reading characters and method of reading postal addresses;

B. Gilai et al. (U.S. Pat. No. 6,256,630 B1) discloses a word-containing database accessing system for responding to ambiguous queries, including a dictionary of database words, a dictionary searcher and a database searcher.

C. Welch et al. (U.S. Pat. No. 6,121,901) discloses a data compression and decompression system with immediate dictionary updating interleaved with string search;

D. Zoken (U.S. Pat. No. 5,944,787) discloses a method for automatically finding postal addresses from e-mail addresses; and

E. Davis (U.S. Pat. No. 4,868,570) discloses a method and system for storing and retrieving compressed data.

#### **NAME OF CONTACT**

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Lewis whose telephone number is (703) 305-8750. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

(703) 746-5651 (Use this FAX #, only after approval by Examiner, for "INFORMAL" or "DRAFT" communication. Examiners may request that a formal paper/amendment be faxed directly to them on occasions.).

Art Unit: 2177

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

A handwritten signature in cursive script, appearing to read "Cheryl Lewis".

Cheryl Lewis  
Patent Examiner  
January 20, 2004